

S/N 10/676,135
Office Action dated April 4, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Claim 1 is amended.

Claim 12 is new.

Listing of Claims:

1. (Currently Amended) A solid-state imaging device, comprising:
a base made of an insulation material and having a frame form in planar shape with an aperture formed at an inner region;
a plurality of wirings provided on one surface of the base and extending toward an outer periphery of the base from a region along the aperture; and
an imaging element mounted on the surface of the base with the plurality of wirings provided thereon so that a light-receptive region of the imaging element faces the aperture,
wherein an end portion on the aperture side of each of the plurality of wirings forms an internal terminal portion and an end portion on the outer peripheral side of each of the plurality of wirings forms an external terminal portion, the internal terminal portion of the wiring being connected electrically with an electrode of the imaging element, and
wherein the plurality of wirings are made of thin metal plate leads, the base is made up of a resin molded member ~~in which the thin metal plate leads are embedded~~, and an upper surface and at least a part in a thickness direction of a side edge face extending from the internal terminal portion to the external terminal portion of the thin metal plate leads [[is]] are embedded in the base, with a bottom surface of the external terminal portion exposed from the bottom surface of the base.
2. (Withdrawn) The solid-state imaging device according to claim 1,
wherein the surface of the base with the plurality of wirings provided thereon has a recess at a region along the aperture so as to be recessed relative to a region outside the recess, and
on a face of the recess, the imaging element is mounted.

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3. (Withdrawn) The solid-state imaging device according to claim 2, wherein a surface of a portion of the thin metal plate leads residing between the internal terminal portion and the external terminal portion is embedded in the base.
4. (Original) The solid-state imaging device according to claim 1, wherein a thickness of the base is substantially uniform, and a solder ball is provided on the external terminal portion of each of the plurality of wirings.
5. (Withdrawn) The solid-state imaging device according to claim 1, wherein at least one of the internal terminal portion and the external terminal portion of the thin metal plate leads protrudes from a surface of the base.
6. (Original) The solid-state imaging device according to claim 1, wherein the base comprises a plurality of positioning reference holes that are formed in a thickness direction of the base, and the imaging element is arranged so as to have a predetermined planar positional relationship with respect to the plurality of positioning reference holes.
7. (Original) The solid-state imaging device according to claim 6, wherein the plurality of positioning reference holes are arranged respectively at asymmetrical positions in the planar shape of the base.
8. (Original) The solid-state imaging device according to claim 6, wherein dimensions of the plurality of positioning reference holes are different from one another.
9. (Original) The solid-state imaging device according to claim 6, wherein the plurality of positioning reference holes penetrate through the base in the thickness direction of the base, and a diameter of the plurality of positioning reference holes on an imaging element mounting side is smaller than a diameter of the same on a rear face side.
10. (Withdrawn) A method for producing a solid-state imaging device that comprises: a

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base made of an insulation material and having a frame form in planar shape with an aperture formed at an inner region; a plurality of wirings provided on one surface of the base and extending toward an outer periphery of the base from a region along the aperture; and an imaging element mounted on the face of the base with the plurality of wirings provided thereon so that a light-receptive region of the imaging element faces the aperture, wherein an end portion on the aperture side of each of the plurality of wirings forms an internal terminal portion and an end portion on the outer peripheral side of each of the plurality of wirings forms an external terminal portion, the internal terminal portion of the wiring being connected electrically with an electrode of the imaging element, the method comprising:

using a pair of molds for forming cavities for molding the base, together with a lead frame having thin metal plate leads for forming the plurality of wirings and a reinforcing plate portion having a shape corresponding to a shape of the aperture of the base which is coupled to the thin metal plate leads in a semi-disconnected state at a boundary portion therebetween,

placing the lead frame between the pair of molds so that the thin metal plate leads are positioned in the cavities formed with the pair of molds and so that the reinforcing plate portion is positioned at a portion where the aperture is to be formed;

pouring a sealing resin in the cavities, followed by curing the sealing resin;

taking a resin molded member formed in a shape of the base, in which the thin metal plate leads are embedded, out of the pair of molds;

separating the reinforcing plate portion from the thin metal plate leads so as to obtain the base, and

mounting the imaging element on a face of the base with the plurality of wirings provided thereon.

11. (Withdrawn) The method for producing a solid-state imaging device according to claim 10, wherein a recess for forming the cavities is formed in one of the pair of molds, and a deflashing sheet is interposed between the other mold and the lead frame when molding the base.

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12. (New) The solid-state imaging device according to claim 1, wherein the entire side edge face of the thin metal plate leads is embedded in the base, and the entire surface of the thin metal plate leads is exposed.